

## **IN THE CLAIMS**

This listing of the claim will replace all prior versions and listings of claim in the present application.

### **Listing of Claims**

1. (currently amended) A service reservation system adapted to accept from users requests for reservations for utilizing services supplied by using resources, comprising:

a reservation condition management element adapted to manage the accepted reservation of services as reservation conditions, thereby controlling the resources which supply the services;

a first acceptance element adapted to accept service booking requests from users;

an importance degree determining element adapted to determine, in accordance with at least one of attributes of the users, status information of the services including load level and social factors and attributes of the services, a degree of importance of the service booking requests accepted by the first acceptance element; and

a reservation taking element adapted, when a load level, which is determined depending upon the reservation condition managed by the reservation condition management element, of resources used for supplying object services relative to the service booking requests accepted by the first acceptance element is higher than a predetermined level, to deny the acceptance of service booking requests if the degree of importance of the service booking requests determined by the importance degree determining element is lower than a predetermined importance degree determined by a

predetermined standard, and to permit the acceptance of the service booking requests if the degree of importance of the service booking requests determined by the importance degree determining element is not lower than the predetermined importance degree,

wherein a service resource allotting element adapted to select a combination among combinations of resources which includes data accumulation resources, data transmission resources and data processing resources to allot resources which constitute the combination thus selected to the reservation of the service whose reservation was taken,

wherein said data transmission resources are adapted to supply transmission and exchange service to the users,

wherein said data processing resources are adapted to supply the users with information processing service via the transmission and exchange service,

wherein said data accumulation resources are adapted to supply the users with information accumulating service via the transmission and exchange service;

~~a logical resource for each service attribute is kept independent from physical resource identifiers in execution of services to be provided, and based on this service attribute, said system determines and reserves candidate identifiers of physical resources and an amount of use that is necessary to provide the service~~means for deciding a logical resource corresponding to a service type that includes a service booking request based on service attribute information that holds a correspondence relationship between the service type and the logical resource; and

means for deciding allocation of a physical resource fulfilling the decided logical resource based on resource management information that holds a correspondence relationship between the logical resource, the physical resource and an attribute of the physical resource,

wherein the logical resource specifies an attribute of the physical resource necessary for implementing a service specified by the service type.

2. (original) A service reservation system according to claim 1, wherein said predetermined standard is a standard at which the predetermined importance degree increases in proportion to the load level of resources in a period of time of execution of object service relative to the reservation booking request.

3. (currently amended) A service reservation system adapted to accept form users requests for reservations for utilizing services supplied by using resources, comprising:

a reservation condition management element adapted to manage accepted reservations of services as reservation condition, thereby controlling the resources which supply the services;

a first acceptance element adapted to accept service booking requests from users in accordance with a degree of importance of the service booking requests, said degree of importance being determined based on at least one of attributes of the users, status information of the services including load level and social factors and attributes of the services;

a substitute reservation plan preparation element adapted to prepare at least one substitute reservation plan which is obtained by altering at least one condition-variable among condition-variables of a resource search condition equation which constitutes the content of reservation in the reservation booking requests accepted by the first acceptance element, in such a manner that a general resources utilization efficiency increases in accordance with the contents of the reservation and a load level of resources used for supplying of the object services relative to the reservation booking requests, said load level being determined by the reservation condition managed by the reservation condition management element;

a substitute reservation plan presentation element adapted to present said at least one substitute reservation plan which is prepared by the substitute reservation plan preparation element, to the users;

a second acceptance element adapted to accept the user's selection of said at least one substitute reservation plan; and

a reservation element adapted to accept as reservation the substitute reservation plan whose selection is accepted by the second acceptance element,

wherein said resources include a transmission and exchange network adapted to supply transmission and exchange service to the users, and a data processing unit adapted to supply the users with information processing and accumulating services via said transmission and exchange network;

means for deciding a logical resource corresponding to a service type that includes a service booking request based on service attribute information

that holds a correspondence relationship between the service type and the logical resource; and

means for deciding allocation of a physical resource fulfilling the decided logical resource based on resource management information that holds a correspondence relationship between the logical resource, the physical resource and an attribute of the physical resource,

wherein the logical resource specifies an attribute of the physical resource necessary for implementing a service specified by the service type  
~~logical resource for each service attribute is kept independent from physical resource identifiers in execution of services to be provided, and based on this service attribute, said system determines and reserves candidate identifiers of physical resources and an amount of use that is necessary to provide the service.~~

4. (previously presented) A service reservation system according to claim 1, further comprising:

a substitute reservation plan preparing element adapted to prepare, when the acceptance of the reservation in the reservation booking request is denied by the reservation taking element, altering at least one condition-variable among condition-variables of a resource search condition equation which constitutes the content of reservation in the reservation booking requests accepted by the first acceptance element, in such a manner that a general resource utilization efficiency increases in accordance with the contents of the reservation and a load level of resources used for supplying of the object services relative to the reservation booking request, said load level

being determined by the reservation condition managed by the reservation condition management element;

a substitute reservation plan presentation element adapted to present said at least one substitute reservation plan which is prepared by the substitute reservation plan preparation element, to the users; and

a second acceptance element adapted to accept the user's selection of the substitute reservation plan,

wherein said reservation taking element accepts as reservation the substitute reservation plan whose selection is accepted by the second selection accepting element.

5. (previously presented) A service reservation system according to claim 1, further comprising:

a substitute reservation preparation element adapted to prepare, when the acceptance of the reservation in the reservation booking request is allowed by the reservation taking element, altering at least one condition-variable among condition-variables of a resource search condition equation which constitutes the content of reservation in the reservation booking requests accepted by the first acceptance element, in such a manner that a general resource utilization efficiency increases in accordance with the contents of the reservation and a load level of resources used for the supplying of the object services relative to the reservation booking request, said load level being determined by the reservation condition management element;

a substitute reservation plan presentation element adapted to present said at least one substitute reservation plan which is prepared by the substitute reservation plan preparation element, to the users; and

a second acceptance element adapted to accept the user's selection of the substitute reservation plan or the reservation allowed by the reservation taking element; wherein said reservation taking element accepts the substitute reservation plan and reservation when its selection is accepted by the second acceptance element; and said reservation taking element accepts when its selection is accepted by the second acceptance element.

6. (original) A service supplying system adapted to supply services by using resources, comprising the service reservation system defined in claim 1, wherein said resources supplying services in accordance with the reservation accepted by the service reservation system.

Claim 7 (canceled).

8. (currently amended) A service reservation taking method for receiving from users the reservation for utilizing services supplied by using resources, comprising:

a first step of accepting service reservation booking requests from the users;

a second step of determining a degree of importance of the accepted service booking requests in accordance with at least one of attributes of the

users, status information of the services including load level and social factors and attributes of the service; and

a third step of when a load level, which is determined depending upon the reservation condition, of resources used for supplying object services relative to the service booking requests is higher than a predetermined level, denying the acceptance of the service booking requests if the degree of importance of the service booking requests is lower than a predetermined importance degree determined by a predetermined standard, and permitting the acceptance of the service booking requests if the degree of importance of the service booking requests is not lower than the predetermined importance degree;

a fourth step of allotting an element adapted to select a combination among combinations of the resources which includes data accumulation resources, data transmission resources and data processing resources to allot resources which constitute the combination thus selected to the reservation of the service whose reservation was taken,

wherein said data transmission resources are adapted to supply transmission and exchange service to the users,

wherein said data processing resources are adapted to supply the users with information processing service via the transmission and exchange service, and

wherein said data accumulation resources are adapted to supply the users with information accumulating service via the transmission and exchange service;



a fifth step of deciding a logical resource corresponding to a service type that includes a service booking request based on service attribute information that holds a correspondence relationship between the service type and the logical resource; and

a sixth step of deciding allocation of a physical resource fulfilling the decided logical resource based on resource management information that holds a correspondence relationship between the logical resource, the physical resource and an attribute of the physical resource,

wherein the logical resource specifies an attribute of the physical resource necessary for implementing a service specified by the service type  
~~logical resource for each service attribute is kept independent from physical resource identifiers in execution of services to be provided, and based on this service attribute, said system determines and reserves candidate identifiers of physical resources and an amount of use that is necessary to provide the service.~~

9. (currently amended) A service reservation taking method for receiving from users the reservation for utilizing services supplied by using resources, comprising:

a first step of accepting service reservation booking requests from the users in accordance with a degree of importance of the service booking requests, said degree of importance being determined based on at least one of attributes of the users, status information of the services including load level and social factors and attributes of the services;

a second step of preparing at least one substitute reservation plan which is obtained by altering at least one condition-variable among condition-variables of a resource search condition equation which constitutes the content of reservation in the reservation booking requests accepted by the first acceptance element, in such a manner that a general resources utilization efficiency increases in accordance with the contents of the reservation and a load level of resources used for supplying of the object services relative to the reservation condition;

a third step of presenting said at least one substitute reservation plan to the users;

a fourth step of accepting the user's selection of said at least one substitute reservation plan; and

a fifth step of accepting as reservation the substitute reservation plan selected by the users,

wherein said resources include a transmission and exchange a network adapted by supply transmission and exchange service to the users, and a data processing unit adapted to supply the users with information processing and accumulating services via said transmission and exchange network;

a seventh step of deciding a logical resource corresponding to a service type that includes a service booking request based on service attribute information that holds a correspondence relationship between the service type and the logical resource; and

a eight step of deciding allocation of a physical resource fulfilling the decided logical resource based on resource management information that

holds a correspondence relationship between the logical resource, the physical resource and an attribute of the physical resource,

wherein the logical resource specifies an attribute of the physical resource necessary for implementing a service specified by the service type  
~~logical resource for each service attribute is kept independent from physical resource identifiers in execution of services to be provided, and based on this service attribute, said system determines and reserves candidate identifiers of physical resources and an amount of use that is necessary to provide the service.~~

10. (currently amended) A recording medium storing therein a program read and executed by an electronic computer,

said program comprising a program for constituting on the electronic computer a service reservation system adapted to accept from users reservation for the utilization of services supplied by using resources,

said service reservation system including:

a reservation condition management element adapted to manage the accepted reservation of services as reservation conditions, thereby controlling the resources which supply the services;

a first acceptance adapted to accept service booking requests from users;

an importance degree determining element adapted to determine, in accordance with at least one of an attribute of the users, status information of the services including load level and social factors and attributes of the

services, a degree of importance of the service booking requests accepted by the first acceptance element; and

a reservation taking element adapted to, when a load level, which is determined depending upon the reservation condition managed by the reservation condition management element, of resources used for supplying object services relative to the service booking requests accepted by the first acceptance element is higher than a predetermined level, deny the acceptance of the service booking requests if the degree of importance of the service booking requests determined by the importance degree determining element is lower than a predetermined importance degree determined by a predetermined standard and permit the acceptance of the service booking requests if the degree of importance of the service booking requests determined by the importance degree determining element is not lower than the predetermined importance degree; <sub>$\tau_1$</sub>

a service resource allotting element adapted to select a combination among combinations of the resources which includes data accumulation resources, data transmission resources and data processing resources to allot resources which constitute the combination thus selected to the reservation of the service whose reservation was taken,

wherein said data transmission resources are adapted to supply transmission and exchange service to the users,

wherein said data processing resources are adapted to supply the users with information processing service via the transmission and exchange service,

wherein said data accumulation resources are adapted to supply the users with information accumulating service via the transmission and exchange service; and

means for deciding a logical resource corresponding to a service type that includes a service booking request based on service attribute information that holds a correspondence relationship between the service type and the logical resource; and

means for deciding allocation of a physical resource fulfilling the decided logical resource based on resource management information that holds a correspondence relationship between the logical resource, the physical resource and an attribute of the physical resource.

wherein the logical resource specifies an attribute of the physical resource necessary for implementing a service specified by the service type  
~~logical resource for each service attribute is kept independent from physical resource identifiers in execution of services to be provided, and based on this service attribute, said system determines and reserves candidate identifiers of physical resources and an amount of use that is necessary to provide the service.~~

11. (currently amended) A recording medium storing therein a program read and executed by an electronic computer, said program comprising a program for constituting on the electronic computer a service reservation system adapted to accept from users reservation for the utilization of services supplied by using resources, said service reservation system including:

a reservation condition management element adapted to manage accepted reservations of services as reservation condition, thereby controlling the resources which supply the services;

a first acceptance element adapted to accept service booking requests from users in accordance with a degree of importance of the service booking requests, said degree of importance being determined based on at least one of attributes of the users, status information of the services including load level and social factors and attributes of the services;

a substitute reservation plan preparation element adapted to prepare by altering at least one condition-variable among condition-variables of a resource search condition equation which constitutes the content of reservation in the reservation booking requests accepted by the first acceptance element, in such a manner that a general resources utilization efficiency increases in accordance with the contents of the reservation and a load level of resources used for supplying of the object services relative to the reservation booking requests, said load level being determined by the reservation condition managed by the reservation condition management element;

a substitute reservation plan presentation element adapted to present said at least one substitute reservation plan which is prepared by the substitute reservation plan preparation element, to the users;

a second acceptance element adapted to accept the user's selection of said at least one substitute reservation plan; and

a reservation element adapted to accept as reservation the substitute reservation plan whose selection is accepted by the second acceptance

element, wherein said resources include a transmission and exchange network adapted to supply transmission and exchange service to the users, and a data processing unit adapted to supply the users with information processing and accumulating services via said transmission and exchange network;

means for deciding a logical resource corresponding to a service type that includes a service booking request based on service attribute information that holds a correspondence relationship between the service type and the logical resource; and

means for deciding allocation of a physical resource fulfilling the decided logical resource based on resource management information that holds a correspondence relationship between the logical resource, the physical resource and an attribute of the physical resource.

wherein the logical resource specifies an attribute of the physical resource necessary for implementing a service specified by the service type  
~~logical resource for each service attribute is kept independent from physical resource identifiers in execution of services to be provided, and based on this service attribute, said system determines and reserves candidate identifiers of physical resources and an amount of use that is necessary to provide the service.~~